

DON E. CRABTREE

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Don was born in Heyburn, Idaho on June 8, 1912 and raised in the Salmon River country which was still very much occupied by local Indians. Young Crabtree became interested in these people and the artifacts he found in the nearby deserts, but was unable to learn anything of their manufacture from the Indians. Apparently, even at that time, flintknapping was a lost art.

By the time he was seven he had gathered quite a collection of artifacts which had only increased his curiosity about their fabrication. So he began to experiment with methods of manufacture to obtain replication. He tried many methods of holding and applying force with little success and much failure. But "failure" was a word Don would not accept, so he persisted with the experiments and by the time he was twelve had learned to use a deer antler or hammerstone for the percussion work and a deer tine for pressure finishing and could make a fair imitation. But Don is a perfectionist and was not satisfied with the results for he realized that the technique was not the same and what he was producing was an imitation and not a duplication.

For many years Crabtree continued the lithic experiments, each ~~a try~~ ^{an attempt} to duplicate a different typological point ~~technique~~ until he had successfully determined the techniques of many peoples in time and space. During this time he made copious notes of platform preparation, amount of force, angle of seating the tool, angle of applied force, termination of flakes, etc. until he was able to interpret many techniques of both the old and new worlds.

While hunting suitable material for experiments, he realized that the debitage found in the Indian campsite was more vitreous and showed a color change from the raw material of the quarry. It occurred to Crabtree that the Indians were successfully treating their flint and he began to experiment with the alteration of lithic material. After much failure, he was successful in duplicating alteration by burying the stone in sand under a campfire and slowly heating and cooling the material. The obsidian, of course, needed no alteration for it is a volcanic glass, but the thermal treatment of the flint allowed greater control of detaching flakes and permitted Don to replicate many more techniques. Since the thermal treatment has now been published by Butler and Crabtree, ^{in T. B. B.} Dr. Francois Bordes of the University of Bordeaux and Dr. Jacques Tixier of the Institute of Human Paleontology, Paris, France have both experimented with the process under controlled conditions and Dr. Bordes now finds that the alteration can be traced to Solutrean and it may well be that pressure work is contemporaneous with thermal alteration. Not all flint was altered by prehistoric man for he desired the more unyielding qualities of the raw flint for certain tools such as drills, etc.

Crabtree had studied geology and paleontology at Long Beach Junior College and so in the late thirties was employed by Dr. Charles Camp and Dr. Ruben Stirton as supervisor of the vertebrate and invertebrate laboratory at the University of California at Berkeley. During the summer months he was assistant to Dr. Stirton in field work in California and Nevada which allowed him time to discover more artifacts and, in the

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evenings, to experiment with replication. While at Berkeley, he was privileged to work with Dr. A.L. Krober and Dr. Gifford who, together with Camp and Stirton, were intensely interested in Crabtree's flint technology and encouraged him to continue the experiments and to eventually publish the results. Since Crabtree had devised his own techniques of manufacture, he was much encouraged when Dr. Krober told him that his hold^{ing} and manufacturing methods were duplicate to those of Ishi.

In 1939 Don was stricken with cancer and returned to Twin Falls, Idaho for surgery. The surgery and subsequent X-ray treatment left him weighing a mere 70 pounds and with phlebitis of the left leg. To regain his health, overcome the pain, and learn to walk again, Don concentrated from morning until night on his flintknapping and it was during this time he resolved many techniques, among them the making of the Folsom point both by percussion and pressure. In 1941 he was invited to demonstrate at the meeting of ^{the} American Association Museums in Columbus Ohio. He was subsequently employed by the Ohio State Museum to continue his experiments in their lithic technology laboratory where he replicated most of the Eastern material and some from Mexico. Here he worked with Dr. Henry Clyde Shetrone and H. Holmes Ellis who further encouraged his experiments. Later he served as adviser on lithics at the University of Penn. and reviewed the Lindenmeier collection of Folsom material at the Smithsonian.

The war intervened and Crabtree interrupted his work to serve as coordinating engineer for Bethlehem Steel Company in California. After the war he returned to Idaho as County Supervisor for the Department of Agriculture. But during these years he continued to experiment, making an effort to replicate more and more point types.

In 1962, ^{Dr. Earl Swanson explained & demonstrated the technological differences in mfg techniques and their relationship to typology} Dr. Earl Swanson, Idaho State University, invited Don to open the first conference of Western archaeologists on problems of point typology. ^{But later that} year, Don suffered a coronary occlusion and he was forced to retire from his position on a disability. However, the participants at the Point typology session had become interested in Don's work through Swanson and so in November 1964 the National Science Foundation sent Don to attend the Lithic Technology conference in Les Eyzies, France. There he worked with Dr. Francois Bordes, Director of the Laboratory of Prehistory of the University of Bordeaux, who for many years has been acknowledged the leading authority on percussion flaking and Old World typology. Together they lectured, demonstrated and explained techniques and their subtle differences to the participants - Bordes covering Old World techniques and Crabtree concentrating on the pressure flaking of the New World. Don felt rewarded for a lifetime of research and experiment when during the closing remarks of the conference the distinguished Dr. Bordes said "If this Crabtree had lived 40,000 years ago he could have taught ancient man a thing or two about toolmaking".

^{As a result of the conference, the N.S.F. has subsequently issued grants to Mr. Swanson to employ Don to explain recent flintknapping to his present capacity of return to film & publish the results} At the conference, Don also worked with Dr. Jacques Tixier, an authority on African typology and a very fine flintknapper. As a result of the meeting, Crabtree, Bordes and Tixier have become fast friends and both men have spent considerable time with Don at his home in Kimberly resolving various techniques. Here they have an opportunity to work uninterrupted, Crabtree helping these men with the pressure techniques of the New World and ^{they, in turn, teaching him the percussion work of} during these visits, these distinguished Frenchmen ^{have} the Old World. ^{During these visits, these distinguished Frenchmen}

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lectured at Idaho State University and have only praise for the university - particularly for the caliber of work accomplished in the Department of Anthropology. In April, 1969 the three men were together at the University of Arizona, Tucson, and the Arizona State University in Tempe, Arizona where they gave demonstrations.

Don 1966 - Dr. Tindale

In 1969, Dr. Swanson conceived the idea of holding a field school of lithic technology and in July of that year the National Science Foundation financed the first field school of this type which was held in Twin Falls, Idaho with graduate students attending from New York, Idaho, Florida, California, Texas and Washington. The school was highly successful to the point where Dr. Swanson is receiving requests from Major universities to continue the lithic technology course and increase the number of participants. The purpose of the school is not primarily to teach flintknapping but, rather, ~~by learning~~ ^{by learning} the manufacturing techniques the students can more clearly and adequately define the technology; associate the technique with technological traits; and substitute experiment for theory - thereby improving their typology. It also defines the miscalculation, clarifies the intentional from the unintentional fracture, and points out the importance of analyzing debitage and its use in reconstructing the point, blade, or core type when the actual artifact is not found in a site. Finished artifacts show only the final stages of manufacture whereas the debitage can tell a lot about the primary and intermediate stages - an important aid to typology.

To clarify typology

Now thanks to Dr. Swanson, N.S.F. & some very good friends in the profession, Don's

In brief, Don's history is that of an Idaho boy whose inquiring mind and admiration for the toolmaking skill of ancient man simply would not quit. One of the highlights of his career was to participate in the making of the N.B.C. special "The First Americans" which was aired in March, 1969. In the special he demonstrated the replication of tools found at the Marmes Rockshelter site.

contributing through exposure to the media by the author

Both Don and the profession owe a vote of thanks to Dr. Swanson for the present accelerated interest in lithic technology for it was he who pointed out the importance of the manufacturing techniques at the 1962 Point Typology Conference. Dr. Swanson was unwilling to accept a morphological typology and felt it should be based on experimental results rather than theory. He felt that Don's knowledge of replication would be invaluable in determining the technological differences in tool types; explain the distinctive processes used by early people in diverse geographical areas in time; and emphasize the fallacy of assumptions and unfounded beliefs on which some statements concerning lithic techniques were based. Dr. Swanson has now completed one film of Don's work showing the quarrying techniques entitled "The Shadow of Man" which has been requested by many major universities and they are currently working on four films which will cover the techniques of pressure work, blademaking, the cone principle, and percussion work.

Don is continuing his experiments and publishing the results and is now preparing for an appearance on February 18th at the American Museum of Natural History in New York where his work will be on display, "The Shadow of Man" shown, and where he will lecture and demonstrate to students and the general public. After the appearance in New York, Don will travel to Yale University for further demonstrations.

*contributions to lithic technology are covered
Don's work is explained in greater detail in*

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